

**TCET - Emissions Reducing Grant  
Demonstration of New Technology – Project Status and Completion Report**

**7. Abstract of work completed during the quarter**

**Emissions Testing of Diesel/Electric Hybrid Commercial Pickup/Delivery Vehicles  
and Assessment of Potential Emission Reductions in the Houston-Galveston Non-Attainment Area  
Houston Advanced Research Center  
The Alliance for Environmental Innovation, a program of Environmental Defense  
Southwest Research Institute**

The crucial challenge for this project during the first and second quarters was the timing of the availability of the FedEx diesel hybrid electric vehicle for emissions testing. Part of this quarter was spent coordinating with the various parties involved in bringing this new vehicle to the market to ensure that the vehicle was available in a timeframe that makes sense to FedEx as well as this TCET funded project. Participants in this process include HARC as the contractor, the Alliance for Environmental Innovations – a program of Environmental Defense (a subcontractor to HARC), Southwest Research Institute (a subcontractor to the Alliance), FedEx, and the vehicle manufacturer. Neither FedEx nor the vehicle manufacturer is party to this contract and scheduling of this project relies heavily on activities and decisions made by these two organizations. The major decision during this quarter was to utilize both existing emissions test data on the prototype vehicle and emissions test data available once the vehicle containing a 2004 certified engine is available (2004). While the TCET funded project is delayed somewhat, the overall aggressive schedule by FedEx in working with the vehicle manufacturer is on time for delivery in 2004.

The prototype vehicles were tested in September 2002 as scheduled (separate from this project) and as described in the original proposal to TCET. During contract negotiations with TCET, it was determined that the September test results could not be made public due to competitive requirements and proprietary considerations. It was necessary to develop an alternative schedule that involved testing of pre-production vehicles yet to be developed, rather than the prototype vehicles as originally proposed. The pre-production vehicles are being produced and a vehicle with a 2004 certified engine will be available in 2004. Emissions testing is one of several operational tests that are needed for these vehicles to be placed in service. Current plans are to complete the initial emissions impact and fleet analysis by September 2003. Once the certified engine vehicle is tested in 2004, a second report will be prepared based on these emissions results.

Work on Task 3, Regional Vehicle Estimates and Survey, continued during this quarter to define methods to be used in (1) estimating emissions impacts and (2) identifying and surveying comparable fleets. Three datasets were obtained containing data on existing fleets in the Houston region and the FedEx fleet. These data along with MOBILE6 analysis, will be used to identify fleets for surveying and for estimating emissions impacts of the test vehicle.

An initial report will be prepared by HARC on fleet characteristics, emissions impacts, and various fleet issues by September 2003. A technical briefing will be held in late October 2003 in coordination with TCET on hybrid electric vehicles. A second emissions impact report will be prepared in 2004 based on emissions testing on a vehicle equipped with a 2004 certified engine.